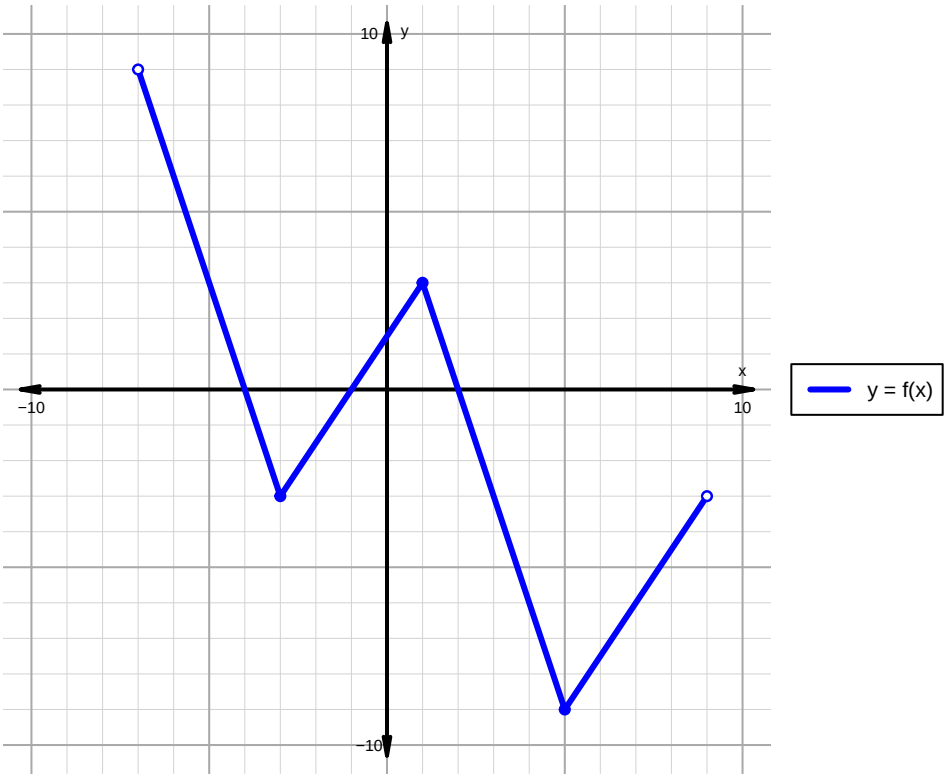
Name: Date:

Intervals, Transformations, and Slope Solution (version 85)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-4)\cup(-1,2)$
Negative	$(-4,-1)\cup(2,9)$
Increasing	$(-3,1)\cup(5,9)$
Decreasing	$(-7,-3)\cup(1,5)$
Domain	$(-7,9)$
Range	$(-9,9)$

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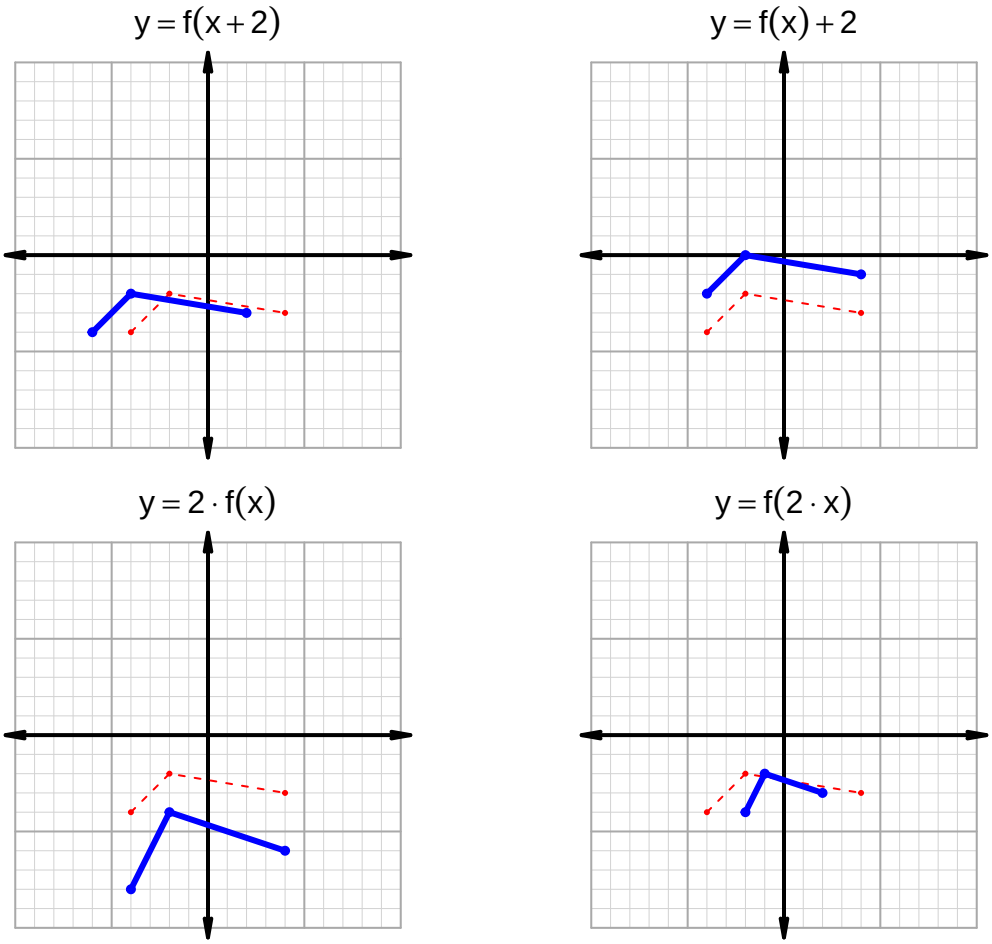
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 50$ and $x_2 = 60$. Express your answer as a reduced fraction.

x	$g(x)$
50	80
60	66
66	50
80	60

$\frac{g(60)-g(50)}{60-50} = \frac{66-80}{60-50} = \frac{-14}{10}$

The greatest common factor of -14 and 10 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{5}$$